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ABSTRACT

As part of a longitudinal study of external assistance in school change, cooperative efforts between an external agency and five schools were analyzed to identify characteristics of the social structure of schools that affect change implementation. Data were collected through extensive observations and interviews. The schools evidenced a considerable differentiation of authority among subunits, which led to sporadic coordination of instructional activities and isolation of subunits. Hence, comprehensive instructional change was difficult, primarily because such change assumes the presence of integrative mechanisms that did not exist in this sample. However, there were several tightly structured areas in the schools and these were more amenable to broad change. (Author/MLF)

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DEGREE OF COUPLING AND SCOPE OF CHANGE:

SCHOOL ORGANIZATION EFFECTS ON IMPLEMENTATION

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ABSTRACT

Recent efforts to describe the nature of schools as organizations have focused attention on the concept of loose coupling, or the extent to which school subunits are interrelated. Although a wide array of kinds of loose coupling and their effects on the change process have been posited, few empirical studies have examined this problem more closely. This study describes three kinds of loose coupling and traces their effects on the scope of changes implemented. Data were collected through extensive observation and interviewing in five public schools over a two-year period. Three kinds of loose coupling were identified. They were: a zoning of control, remote coordination of instruction, and a damping effect on the flow of activities and information among subunits. Generally, it was found that loose coupling facilitated change in single subunits but worked against more systematic change involving many subunits. However, individual schools were not uniformly loosely coupled, and in areas of tighter coupling, more comprehensive change was possible.

PREFACE

Research for Better Schools (RBS) is committed to providing a balanced program of research, development, and technical assistance to educational agencies in the Pennsylvania, New Jersey, and Delaware region. A major part of the research element consists of Field Studies projects. One of those projects focuses on two of RBS' development efforts and the local schools participating in them. The development projects are creating approaches through which external agencies can help schools improve their curricula and instructional strategies in basic skills and career preparation. Schools participating in the development hope to improve their own educational programs. RBS intends to develop approaches and knowledge which will have generalizable utility.

This is one of several reports on the Field Studies' research. The five reports being developed in the 1980-81 year are intended to be of interest to researchers, school practitioners, and those charged with the operation and staffing of development and dissemination projects throughout the country. The reports cover two years of activity in five schools. Their purpose is to identify and clarify issues related to the support of local school improvement. A complete listing of all reports available from this project is found on the inside back cover of this document.

William A. Firestone

Field Studies Coordinator

Table of Contents

Page

Procedures 3

Organizational Coupling in Schools 6

Zoning of Control 7

Classroom Zone 7

Administrative Zone. 9

Expectations, beliefs, and the maintenance of zones 10

Remote Formal Coordination of Instructional Activities. 14

Classroom coordination by planning 15

Classroom coordination by feedback 16

Variation in the delivery of instruction 18

Non-classroom coordination 19

Damping Between Subunits. 19

Horizontal damping 20

Vertical damping 21

Degree of Coupling and Scope of Change 24

Implementing Low-Scope Change 26

Implementing High-Scope Change. 29

Horizontal diffusion 30

Top-down change. 32

Page

Summary and Implications 37

Footnotes. 41

References 42

DEGREE OF COUPLING AND SCOPE OF CHANGE:

SCHOOL ORGANIZATION EFFECTS ON IMPLEMENTATION

Recent research on educational change suggests that aspects of a school's organizational context may profoundly influence the nature of change efforts and outcomes at the school (Berman 1980).[1] Such a finding places a great burden on educational agencies assisting school improvement because it requires them either to adjust the change process to fit idiosyncratic conditions of individual sites or to assist alterations in these conditions prior to seeking further change. One theme contained in the change literature is particularly salient for these endeavors, and that is that school organizational characteristics which foster certain kinds of change may work against others. This suggests that not only may some schools be receptive to improvement and others not, but also within a school some features of improvement may be more easily implemented than others.

For example, Zaltman, Duncan, and Holbeck (1973) argue that the characteristics of an organization's structure which facilitate the initiation of innovations are not necessarily those that contribute to full implementation of the innovations. Specifically, they contend that highly complex, decentralized organizations with little formalization of procedures can easily initiate changes in aspects of their operations but have difficulty incorporating them; less complex, more centralized organizations with high formalization are less receptive to initiation but once a change has been adopted, it can be readily implemented. The major

reason for this phenomenon is that subunits in more complex, loosely structured organizations have considerable autonomy to act. Consequently, when pressure or desire for change occurs, needed changes can be initiated. However, this same set of circumstances precludes change from becoming incorporated throughout an organization.

Firestone (1980) and Firestone and Herriott (1980b) extent this idea to school districts. Schools can be conceived of as loosely-coupled systems. That is, there is little interrelatedness or dependency among individuals or subunits (Weick 1976). This situation makes the implementation of low scope changes, or changes which require few subunits to alter their behavior radically, relatively easy but "comprehensive change will not work because the kind of system integration required to make it effective does not exist" (Firestone and Herriott 1980b, in press). Thus, in loosely-coupled districts, attempts at comprehensive change result in a hodge-podge of assorted innovations rather than a systemwide program of change.

Weick (1976) identifies 15 kinds of loose coupling in organizations. These include little coordination of work activity, slow spread of influence, low visibility of role performances, infrequent inspection, lack of feedback, decentralization, and delegation of discretion. As Louis, Molitor, and Rosenblum (1979) illustrate, the extent to which these characteristics are present in a school is affected by two major factors: the formal organizational structure of the school and its cultural system. In other words, the regularity with which certain patterns of behavior occur and the nature of the shared understandings among school members can increase or decrease the interrelatedness of subunits.[2]

To date, relationships between the degree of coupling in a school and the change process have been identified mostly through informed speculation; few empirical attempts have been undertaken to discipline these ideas (Miles 1980). This paper reports on exploratory research intended to address this issue. It details three kinds of coupling found in five public schools and traces the effects of the relative presence and absence of these couplings on change implementation.

Procedures

In 1977 Research for Better Schools (RBS) initiated a long-term work effort to explore how external agencies can best facilitate school improvement. The primary focus of the effort was developing approaches to planning and implementing changes that schools could use to improve instructional programs in two areas: basic skills and career education. The RBS approaches initially involved the use of external agents who assisted schools in going through a rational, decision-making process. Later, agents were to be supplied by the school systems. Although the external agents were to have an active presence in the schools, the determination of actual changes to be made was left to the schools. Typically, planning for these changes was conducted by a team of teachers and administrators. It was hoped that in this way the changes would be compatible with the school context, and, thus, become implemented and institutionalized (for more information on the approaches, see Career Preparation Component 1979; Graeber 1980; Helms 1980).

The research reported here was an examination of RBS' work in five schools from the fall of 1978 to the fall of 1980. The focus was on

building-level change; data concerning school district involvement in the change process have been reported elsewhere (Dawson 1980; Firestone and Corbett 1981). The schools varied according to faculty size, level, location, and student population served. Smalltown[3] was a rural elementary school with 13 faculty members. Thirteen percent of its students were from minority groups. Middleville was an elementary school located in a lower middle-class suburb of a major city. Thirty-seven faculty served a student population comprised of twenty percent minorities. Located in an urban school district, Patriot Elementary had 18 classroom teachers and 95 percent minority students. Green Hills was an upper middle-class suburban junior high with 45 faculty and eight percent minorities. Neighbortown was a rural high school which served no minority students. It had 49 classroom teachers.

Data were collected primarily through extensive observation and formal and informal interviewing. Field researchers observed most of the formal planning meetings which occurred between RBS and the schools. At these times, brief informal interviews were often conducted. In addition, researchers had occasional formal interviews with both project and non-project participants and spent considerable time observing school life in classrooms, in school-related meetings, in teachers' lounges, and in the communities in which the schools were located. Data collection was directed by a team of field researchers who met regularly to discuss emerging issues, theoretical concerns, and methods for gathering appropriate data. Individual researchers were free to supplement these methods at a site and pursue events unique to a site. Data from observations and

interviews were written as field notes immediately after collection, the notes were recorded on tape, and the tapes were transcribed. The typed notes were then coded using a topical index, with topics derived from the notes. The coding system was continually adjusted as previously unencountered events occurred at the sites. The location of each occurrence of a code was stored on computer to facilitate quick access to the more than 2,000 pages of typed field notes the research yielded.

The coding index was used to identify field data related to a school's organization, such as patterns of interaction in schools, staff sentiments about their roles and the roles of others, the allocation of resources like time and money, descriptions of school and classroom operating procedures, sentiments about those procedures, informal groupings of students and staff, the distribution of decision-making responsibilities, leadership styles of administrators, staff attempts to exercise influence, and intended and unintended changes resulting from the projects. Data were then recoded into broader categories related to school organization. From this process three categories of organizational characteristics emerged which were the most salient for understanding the patterns of change outcomes.

In addition to the qualitative data, classroom teachers completed a survey concerning school organization. The full survey and an analysis of the data are contained in Firestone and Herriott (1980a). In this paper, only descriptive data concerning teachers' perceptions of particular characteristics of their schools are used.

Organizational Coupling in Schools

All five schools evidenced three kinds of loose coupling: (1) a zoning of control, (2) remote coordination of instruction, and (3) damping between subunits. Zoning of control referred to the division of decision-making responsibilities and obligations among subunits within a school (Lortie 1969); remote coordination was the means by which the delivery of instruction was organized and adjusted across subunits; and damping denoted the extent to which activity in one subunit did not necessitate activity in another subunit (Weick 1980). The nature of these linkages was affected by both the formal organization and the culture of the schools. For example, the responsibilities of principals were delineated in formal job descriptions. However, specific obligations and constraints on the performance of those responsibilities derived from the expectations for behavior held by the staff.

The schools varied in the degree to which they were loosely-coupled. For example, in the smallest school the principal was able to visit classrooms much more often than in the larger schools, and thus, provided more immediate coordination of instruction. But, for the most part, the schools were more striking in their similarity than dissimilarity. Moreover, within each school, there were subunits and areas of operation which were more tightly-coupled than others. For example, at Neighbortown, at least one subject area department displayed tendencies the exact opposite of the school as a whole; and at Smalltown the district curriculum for math structured teachers' math lessons much more so than the curriculum for reading did reading lessons. Consequently, none of the schools could

be described as being uniformly loosely-coupled; it was much more appropriate to consider them as possessing a mixture of loose and tight couplings.

Zoning of Control

Deal and Nutt (1979) characterized the schools in the federally-funded Project Rural program as "federations of zones." These zones were the organizational territories over which various sub-groups exercised control. In some cases the division of authority and obligations among zones was distinct; in other cases there was an overlapping of control which opened the way for boundary disputes. Zoning of control was also evident in the schools in this study. There were certain areas of responsibility where teachers made decisions and others where administrators made decisions. The major zonal division was between individual classroom activities and the rest of a school's operation.

However, in addition, there were zones within each of these two zones. Decision-making about classroom activities within a content area department or grade level occasionally resided with individual teachers; in other instances teachers jointly made these decisions. Within the administrative zone, the principals had the right to make certain decisions that superintendents and schools could not make. Although zonal rights and obligations had their origin in formal delineations of authority, they were maintained by the informal expectations and beliefs of school staff.

Classroom zone. Teachers in all five schools had the major responsibility for making decisions about the activities that occurred in classrooms and the pacing of those activities. Such decisions included whether or not students would work in groups, what uses would be made of

textbooks and other resource materials, the methods through which content would be presented, and the ways in which students would demonstrate their understanding. In addition, teachers determined how much time would be spent on an activity, when in the school day or class period the activity would occur, and how much time at home students would need to work.

As was the case in Firestone's (1980) study, teachers had less control over instructional decisions when the decision applied to broader aspects of school operation than the classrooms of individual teachers. These decisions focused on determining the overall curriculum for content areas, such as what textbooks to adopt, what skills were appropriate for students at particular levels to possess, what learning objectives students should meet, and what the appropriate range of content for students at various levels was. In the secondary schools these decisions typically were made by content area departments; in the elementary schools teachers were often asked to be on committees whose task was to determine the curriculum.

In both instances, however, the decisions were subject to the approval of individuals in the administrative zone. For example, at Neighbortown, departments decided on what courses to add or drop and on what revisions in existing courses to make. These decisions were then to be approved in sequence by the principal, a central curriculum committee made up of administrators and teachers, an administrative committee, and finally, the school board. The principal said that most curriculum decisions made by teachers were readily approved, but that in recent years an attempt by one department to institute a lab period had been blocked and administrators had decided to drop an advanced placement course. In Smalltown's

district, teachers were responsible for establishing a set of minimum competencies for reading, but district administrators decided the objectives were not adequate and instructed teachers to follow previously-established competencies.

In the two secondary schools there was evidence of additional zoning of control within the classroom zone. Both schools had content area departments headed by chairpersons. However, the patterns of control varied. Typically individual teachers exercised control over the courses they taught while the chairperson served as a communications link between teachers and administrators; in several departments individual teachers determined classroom activities but the department chairperson observed classes, critiqued courses, and occasionally told teachers additions or revisions to make; and in one department at Neighbortown, the teachers as a group made all decisions about the kind and pacing of activities in all courses.

Administrative zone. Building principals, district office administrators, and school boards not only had final right of approval over curriculum decisions but also had control over most of the other aspects of school operation. These other areas included determining class schedules, assigning students and teachers to classes, setting budgets, evaluating staff, establishing new staff positions, ordering supplies and materials, appointing teachers to extra duty assignments, handling serious discipline problems, hiring and firing staff, initiating new programs or projects, establishing committees of staff to recommend policy, and organizing in-service activities.

However, these responsibilities were divided among administrative positions, creating additional zones. For example, at Patriot the building principal handled scheduling, staff evaluations, extra duty assignments, serious discipline problems, and initiation of new projects involving the school while the district transferred staff and allocated money to schools. A similar division of responsibilities occurred at the other sites. However, at Green Hills the school board played a much more active part in establishing district policy and questioning existing practices than it did at the other sites. As one administrator observed, "The Board is into everything today."

A common occurrence within this zone that further complicated the control issue was that decisions made by an administrator were not always binding upon successors to that administrator's position. For example, in Patriot's district a previous superintendent had strongly emphasized the need for having a comprehensive system of instructional objectives. Teachers reported this system was closely followed. However, the next superintendent was able to suspend this arrangement in favor of new directives.

Expectations, beliefs, and the maintenance of zones. The consistency with which zones of control were adhered to within the schools was more a result of informal norms than official policy. Although union contracts placed some constraints on the ability of various subgroups to make decisions, the division of decision-making responsibilities

was generally upheld by individuals' expectations for role performance. For example, official policy did not specify that classroom activities were the province of teachers. Indeed, principals acknowledged that they had the right to interfere in classroom activities. However, interference was considered only in severe cases.

Generally a problem with a teacher's delivery of instruction was labeled "severe" when evidence from an outside source, e.g., test scores or community complaints, was available which cast doubts on the individual's ability to teach effectively. For example, at Patriot the principal expressed displeasure with the performance of teachers in a particular grade. However, the principal also said that no intervention was planned until standardized test scores were available. When these scores indicated that students in these teachers' courses were not performing as well as the principal thought they should, the principal indicated that action would be taken to get the teachers to alter their instruction. As another illustration, several students and parents complained that a teacher's classroom practices at Smalltown were making it difficult for the students to learn. These verbal and written complaints led the principal to call a conference with the teacher in which the teacher was to justify the practices. The teacher did so, and the principal accepted the reasons offered. Later, however, the principal said that if the teacher had not been able to explain why the practices were being used, then changes would have been made. Nevertheless, the general behavior pattern was that classroom decisions were left to teachers even though principals felt

that their official authority allowed them to intervene. Even after several Green Hills teachers commented to the principal about noise emanating from one teacher's class, the principal stated, "I'm not going to try to change [the teacher]....It's something we're going to have to learn to live with." The Neighbortown principal simply remarked, "I don't bother them about their work."

Teachers reported that their influence over decisions did not extend much beyond the boundaries of individual classrooms. Data from a survey of teachers indicated that the teachers felt they had greatest control over daily lessons, course objectives, and material selection whereas administrators controlled extra duty assignments, scheduling, renewing contracts, and spending discretionary funds. Thus, teachers indicated that broader aspects of school operation were the responsibility of administrators. However, they also seemed to accept this division of decision-making responsibility. A teacher at Neighbortown stated, "I believe I have a boss and he can tell me what to do....I feel this gives me more control over my class because I can focus on what I'm supposed to be doing." Teachers at Smalltown were not so satisfied with that arrangement but nevertheless accepted it. In response to an administrator's request a teacher considered to be legitimate but unreasonable, the teacher said, "We don't like it, but what can we do?"

However, attempts by parties outside a zone to interfere in decisions within the zone were not well received. Three incidents illustrated the tension that could result when boundaries were not observed. In one,

the Neighbortown principal had discovered a teacher's description of a class activity that was to be mimeographed in the office and asked the teacher to explain how the activity fit into designated course content. Afterwards, the teacher expressed anger at the principal's apparent attempt to define appropriate course content. In the second example, a teacher at Neighbortown felt the need for additional planning time because extra duty assignments conflicted with existing planning time. The teacher suggested to the principal a way for the schedule to be adjusted to provide for this time. According to the teacher, the principal strongly resented the teacher's attempt to interfere with scheduling decisions. In the third, two teachers at Green Hills decided informally to switch class assignments. Although the teachers requested and received the principal's approval, the superintendent became aware of the change and wondered why the central office had not been notified. A meeting was called to discuss the issue and to reaffirm district policy on how course assignment changes were to be reviewed.

Tension also resulted when individuals within a zone did not perform their role in conformity with the expectations of others. For example, a point of contention between the teachers and principal at Patriot was what the teachers perceived to be the principal's laxness in handling serious discipline problems and rigidity in dealing with teachers. One teacher complained that when students returned from disciplinary sessions with the principal, they "were not afraid"; according to the teacher, this then hampered teachers' attempts to maintain discipline. On the other

hand, teachers complained that the principal "goes by the book" with teachers, thereby not allowing them enough "free play" in decisions.

Remote Formal Coordination of Instructional Activities

In most organizations formal coordination of work activity can be achieved either through advanced planning or feedback (Thompson 1967). Recent research has pointed to the lack of coordination in schools through either of these means and has suggested that integration of instruction is instead maintained by a logic of confidence in the ability of personnel to determine and deliver appropriate services (Meyer & Rowan 1978). Evidence of this assumption of expertise was found in this study as well. As the Smalltown principal stated while explaining why teachers were given leeway in determining classroom activities, "Teachers are professionals who have a certain expertise."

Nevertheless, planning and feedback were also in evidence in the schools studied, but these coordinating activities were remote from the classroom arenas in which instruction was provided. That is, formal coordination of instruction took place, but advanced planning typically occurred at the district level and resulted in broad written curriculum guidelines for teachers to follow; in addition, feedback data used in adjusting a school's instructional services were derived from secondary indicators of performance, such as standardized tests or parent complaints. Some informal coordination of instruction occurred among teachers, but this was limited and sporadic. When coupled with the considerable

control individual teachers had over classrooms, this remote coordination led to variation in the delivery of instruction to students. Coordination of other aspects of school building operation, particularly scheduling, was typically done through advanced planning by the individuals within whose zone of control these aspects fell.

Classroom coordination by planning. Formal coordination through planning was hindered by the absence of scheduled opportunities for teachers to meet with one another to plan or to discuss instruction and the hit or miss nature of informal contacts among teachers. For example, at Neighbortown teachers in subject area departments met once a month. Although these meetings provided an opportunity for coordinating instruction within a department, discussions generally concerned other issues, such as the ordering of materials, notification of school-wide events, and informal conversation. In only one department did the teachers jointly plan the day-to-day lessons that would be a part of the courses offered by the department. Non-departmental teachers as well as the entire school faculty met much more infrequently. At Smalltown teachers who taught at the same grade level had the same planning periods, and thus, could jointly make instruction decisions. Nevertheless, opportunities to meet with other teachers were more infrequent, making across grade articulation at the building-level difficult.

To the extent that formal planning occurred, it occurred a step removed from the building level. For example, districts often constituted committees of teachers to establish the content of instruction

apprioriate to a grade level or subject area. The resulting guides varied in specificity, but generally they contained the range of content to be covered, the skills students were to develop, and the learning objectives they were to meet. The issue of what instructional materials and methods to use was less frequently addressed. One administrator labeled Smalltown's guide as "the backbone" of the district's curriculum. However, a teacher complained about the lack of specificity by saying "we need a curriculum guide....In other words, these are the main [objectives], but there are others which we should teach."

Coordination of instruction occasionally occurred informally. For example, teachers would meet in their lounges and discuss classroom activities with one another. However, these informal conversations were not well-suited to wide-spread coordination because they depended on scheduled teacher breaks to occur and, thus, systematically excluded some teachers from participating. A teacher at Smalltown commented, "There [are] some people I'll never see because some times don't coincide with mine." In addition, "free time" was jealously protected by teachers and thus not always readily given to coordinating activities. As a Patriot teacher explained, "not every teacher is willing to give up their lunch time to talk about the kid."

Classroom coordination by feedback. Feedback on the effectiveness of classroom instruction was scant and inferential, thus providing few clues for exactly what aspects of instruction needed revamping. For

example, the sole sources of "objective" data were standardized and district-made tests. Although district-made tests were more closely tied to the instruction that was actually delivered than the standardized tests, a district could only infer from the data what teaching methods seemed to be the most effective in achieving instructional objectives. Consequently, tests were generally viewed with skepticism as useful feedback instruments. As an administrator at Middleville remarked, "tests can project anything you want them to project." A teacher at Patriot indicated that the tests were important to teachers only "because the administration is concerned about [the standardized tests used in the district]." Parent complaints were another source of feedback on teaching performance, but these were so infrequent in the schools that they were of little utility as a coordinating device.

Opportunities to obtain feedback data on classrooms through direct observation were hindered by prevailing norms in the schools against such observations. At Smalltown, teachers, especially the more experienced ones, did not mind the principal's classroom visits but resented and tried to avoid such observations by subject area coordinators. At Patriot, teachers were not bothered by visitations from district coordinators but tried to prevent the principal from entering the classroom. Principals at both schools were aware of teacher concerns about observations and both expressed a hesitancy to go into classrooms, particularly if a teacher was especially "uptight." Thus, the norm of the closed classroom was generally adhered to by all parties.

Teachers expressed a desire to observe other teachers to learn new instructional techniques and provide less threatening critiques. However, such observations rarely took place. When teachers were asked in a survey if teacher visitations occurred, 43 out of 46 Neighbortown teacher respondents answered "generally no" or "no", as did 36 of 38 Green Hills teachers, 10 of 16 Smalltown teachers,[4] 13 of 17 Patriot teachers, and 17 of 23 Middleville teachers.

Variation in the delivery of instruction. The consequence of this mix of remote formal coordination and sporadic informal coordination was considerable variation in the instructional activities presented to students. Within subunits (i.e., grade levels or departments) teachers loosely adhered to curriculum guides. In some instances the lack of adherence was the result of a discrepancy between guides which were intended for use with students who were achieving at grade level and teachers who had students who were below grade level. In such cases, teachers either used the guides for previous grades or no guide at all. In other instances, teachers simply decided against using the guide (a decision teachers were able to make because of zoning of control and lack of feedback) because they preferred to follow the sequence of content provided in a textbook, or because, as a teacher at Middleville observed, the curriculum was "too old."

Across subject areas, the presentation of overlapping content was not systematically coordinated. As a consequence, disjunctions in instruction occurred. For example, at Neighbortown certain science classes

required students to know particular mathematical procedures. However, instruction in those procedures occurred in the math classes after they were needed in science. Thus, science teachers complained of having to take time away from their curriculum to teach math.

Non-classroom coordination. In other areas of school operation, formal coordination was much more immediate to the arena of activity, and these areas generally were within the administrative zone of control. For example, one such area was the scheduling of students, courses and teachers. At all five schools scheduling was in the administrative zone of control and was accomplished in the summer after all the data about courses desired by students (in the secondary schools) and teachers' course and class assignments were collected. Similarly, curriculum objectives for different grades were coordinated through advanced planning. Although administrators generally had final approval over curriculum decisions, other staff were frequently included in planning. Consequently, coupling in the areas of scheduling and overall curriculum tended to be much tighter than in the delivery of individual classroom instruction.

Damping Between Subunits

Weick (1980) indicates that in loosely-coupled systems there is rarely a one-to-one correspondence between an action in one aspect of an organization and action in another and refers to this phenomenon as "damping." Damping tends to insulate subunits from one another and probably serves a useful function by preventing a subunit from having to respond immediately, or at all, to disturbances in other subunits. In the schools in this study, there

was not only a damping of activity among subunits but also a damping of information about school procedures and resources available. Thus, although teachers and departments were not obliged to respond to changes being made by or to colleagues, neither did they receive information potentially useful for fulfilling responsibilities. Damping occurred both horizontally and vertically among subunits, although vertical damping was more pronounced between subunits that were at least one level removed from one another.

Horizontal damping. A teacher rarely found it necessary to alter classroom behaviors because of events occurring in other teachers' classrooms. The most pressure to respond typically came from students who would suggest that a teacher engage in or allow certain activities because other teachers did. Similarly grade levels or departments infrequently had to adjust their activities as a consequence of actions taken elsewhere. For example, at Neighbortown one department instituted a program radically different from other departments. Students were assigned to a time period for courses but, unlike in other departments, individuals could select any departmental course during that time. In addition, courses could be completed more quickly or slowly than designated by standard grading intervals. Nevertheless these changes did not affect the programs in other departments. In fact, departments routinely altered their programs without disrupting programs elsewhere in the school.

Horizontal damping of information among teachers and departments seemed to be a function of individual teachers' having almost total

decision-making responsibilities for their classrooms and limited opportunities to interact with each other. In other words, there was little information that one teacher possessed that other teachers had to have to perform their duties, and there were few routinely-arranged occasions to share any information that may have been useful. Summarizing the sentiments of numerous teachers was one at Green Hills who remarked, "I have no idea what other departments are doing."

In several schools there seemed to be a reluctance to share information, even when it may have been valuable to others. At Green Hills a teacher complained, "Everyone keeps things [materials] in their areas." To which another teacher replied, "Yeah...people don't want to feel that their kids have had something elsewhere." At Neighbortown the librarian discovered that the guidance department possessed numerous curriculum materials for teachers that the librarian felt should have been turned over to the library. A guidance counselor had not done so for fear that the materials could not be located unless they were kept together. The effect of this "turf" issue was that few teachers were aware that the materials existed. Thus, at both schools, aspects of school culture hampered the horizontal flow of information.

Vertical damping. Two categories of events illustrated the presence of vertical damping of activities. One was the ease with which administrators could suspend special projects. Although such action fell within the administrative zone of authority, ending special projects abruptly would likely have caused at least some negative reactions from staff if

the projects had already required staff to alter their patterns of behavior extensively. However, typically few staff members were aware of these projects, which rarely advanced to the point that system adjustments were made necessary. Instead, such projects seemed to be encapsuled, eliciting little attention. Teachers at both Middleville and Neighbortown reported that new projects were often initiated, participants selected, a chairperson appointed, and then never heard from again. As one teacher remarked, "We seem to be great at starting things and very weak at following through."

The second category was the minimal effects of administrator turnover in district offices on the daily activities of teachers. The circumstances surrounding such turnover attracted considerable attention from the communities, other administrators, and external agencies working with the schools. However, for teachers the ramifications were small. When asked what effects a new superintendent had had on teachers after eight months in office, a teacher replied that the teacher was aware that there were changes that the superintendent wanted to make, but the teacher did not know of any that had been implemented. Thus, for teachers, the routines of classroom life continued despite disturbances in the district offices.

However, there were also instances when there was less vertical damping between subunits. This greater coupling occurred between subunits that were closer to one another in the school system hierarchy. For example, turnover in the superintendency at Patriot did not affect the teachers to any extent but it did lead to turnover in other district

office positions. At Green Hills, a change in the principalship had significant effects on teachers, particularly on the ways in which the non-classroom time of teachers was used.

Vertical damping of information affected teachers in at least two ways. First, at times teachers expressed confusion about what procedures to follow in performing certain assignments. For example, at Smalltown teachers had received notice from the district office that the minimum student competencies recently established in reading were to be used by all teachers. However, the competencies had been altered, and thus, the principal felt that the competencies used in previous years were to be followed until the new competencies were corrected. Moreover, the assistant superintendent had recommended that teachers follow a textbook series for reading. Teachers reported confusion over which guide to use as late as February of the school year. Similarly, at Neighbortown teachers were required to write descriptions of their curriculum programs for the central office to use in obtaining district accreditation. Some teachers believed there was a required reporting format to follow and were using it, others believed there was a required format but did not know what it was, and still others did not know there was a required format.

Second, teachers were occasionally unclear about their assignments for the following year and reported that they were consequently restricted in conducting advanced planning. This problem was especially prevalent at Green Hills where the following interchange between a teacher and an administrator occurred:

Teacher: Do you know who is going to be where?

Administrator: Yes.

Teacher: Why doesn't everyone else know?

Administrator: It's not my place to tell.

Degree of Coupling and Scope of Change

"Scope of change" generally refers to two facets of implementation: the number of subunits involved in making changes and the extent to which the changes depart from existing practice (Firestone 1980; Rosenblum and Louis 1978). This paper focuses only on the first facet: the number of subunits involved in making changes. With respect to the second facet, there was little variation. One reason for this was that RBS and the school planning teams emphasized "easy" changes as a strategy to weaken potential resistance in early implementation efforts. The hope was that initial success would stimulate further changes. Another reason was that administrators occasionally vetoed some of the more radical changes before they could be seriously discussed. For example, RBS staff strongly felt that having student activities in the local community on school time could be a valuable component of an improved program. Nevertheless, Neighbortown never considered this alternative. An administrator said that previous efforts in this direction had caused problems, that a new school policy against community activities was approved by the school board, and that the policy would not be amended.[5]

Low-scope changes, attempted and/or made, included alterations individual teachers made in their selection of content to be taught, the

kinds of teaching activities used, classroom management techniques, or their choice of disciplinary methods, and administrators' adjustments in their leadership styles. High-scope changes sought involved widespread diffusion of low-scope changes and scheduling, policy, and coordinating practices. Either kind of change was defined as implemented when behavior was altered as an acknowledged consequence of participation in the RBS project. No attempt was made to judge the success, appropriateness, or faithfulness to what was intended of the changes made.

The scope of change was associated with the degree of coupling within a school. Low-scope change was most easily made when implementation decisions were in the zone of control of the individual making the change, coordination with others was not required, and damping between subunits was high. On the other hand, high-scope change was hindered by loose coupling. For example, high damping and remote coordination reduced the extent to which knowledge about the RBS projects was diffused through a school, and zoning of control lessened the effectiveness of administrative attempts to mandate changes which fell within the teachers' zone. Despite the potential mandating change had for creating staff tension, a number of project participants believed that such a tactic was the only means to get full faculty participation. Another method for implementing high scope change was for administrators to make changes within their zone, such as in scheduling or staff evaluation practices, which then directly affected large portions of the faculty. Although no school altered its organizational structure deliberately to facilitate implementing changes

of a particular scope, the RBS planning meetings were used in several schools as a way of tightening the couplings among subunits.

Implementing Low-Scope Change

Participants in the RBS projects intended for certain low-scope changes to occur. These primarily involved teachers and required them to alter their teaching behavior or the content of class activities. For example, several teachers at Smalltown altered the patterns in which they grouped students for instruction; teachers at Patriot focused on the techniques by which they rewarded desired student behavior; and Neighbortown teachers altered the content of examples they used to illustrate certain principles related to their subject areas.

These changes seemed to be facilitated by loose coupling. In all schools, teachers had the responsibility for determining daily class lessons and the curriculum objectives to be addressed on any given day. This day-to-day delivery of instruction was not closely coordinated with that of other teachers and infrequently affected the kinds of instruction other teachers delivered. Thus, when a teacher considered making a change in instructional behavior or in lesson plans, no consultation with or approval from other teachers or administrators was necessary. In fact, of the close to 30 teachers who participated in the projects during the second year, all but one reported that they made at least one change as a result of participating in the project.

However, no school was uniformly loosely coupled, and consequently, organizational constraints on implementing low-scope change arose, particularly as the changes required decisions to be made in other zones of control,

as they demanded coordination with other individuals or subunits, or as the damping between subunits lowered. Illustrative of zone of control problems was tension at Green Hills between the existing curriculum and the introduction of new course content decided on in the RBS project. Teachers felt that the existing curriculum defined as much content as could be presented in a course. One teacher emphasized, "There are some things that I must teach but I cannot, I cannot, infuse [project content] into." The consequence was that teachers tended to make changes only in courses for which there were no rigid curriculum guides (generally elective courses rather than required subjects).

Administrator: Is it because the curriculum is in the way of getting this [implementation] done?

Teacher: Yes....I cannot take two or two and a half weeks out of the curriculum....With this group [the course in which implementation was occurring] that fits in with course objectives.

Administrator: In looking into the future, something is going to have to come out of the curriculum, isn't it?

This conclusion was echoed by other Green Hills teachers: "There is not enough time to do everything that is expected and to do it well," and "If you put something in, you take something out" were typical comments. At least two teachers argued that the changes could be made without affecting the coverage of required curriculum; but on the whole, teachers

believed that curriculum decisions would have to be made before individual classroom decisions could be. Because curriculum decisions were made first by an entire department, then approved by the principal, superintendent, and school board, teachers felt limited in the extent to which they could make the desired changes themselves.

The time required to implement changes placed additional constraints on teachers. Some expressed frustration over not having enough time to plan and execute new activities well; others became upset over having to put what they felt to be too much time into making changes. In either case teachers said that creating additional time or reducing existing demands was a decision they could not make. That decision belonged to administrators, and until those decisions were made, teachers indicated their participation in implementation would be limited.

A project teacher at Neighbortown also felt organizational constraints on making low-scope changes, but because of close coordination and low damping among teachers within the teacher's department rather than the school. In the department, teachers often taught the same courses, frequently interacted about classes, jointly set priorities for the group to address, and jointly established procedures for individual courses. Thus, any individual changes a teacher made directly affected the other members, and, in fact, no individual changes were made without prior discussion with the whole department. As a part of implementation of the RBS project, teachers who were involved in planning were to have a trial test of teaching activities for a nine-week period. All participants

agreed to do this and did so except for the one teacher; to have participated in the trial would have violated standard practice in the department. Thus the teacher resisted until the entire department was included in planning the changes.

Implementing High-Scope Change

High-scope change was attempted in two ways. One was horizontal diffusion of project goals among all teachers in a school. Project planners hoped that non-project teachers would become committed to addressing the central problems the projects attacked, and then, would devise innovations appropriate to the circumstances of individual classrooms. Thus, particular classroom-level changes were to vary from teacher to teacher. Because it was a school-wide commitment to certain goals that was sought rather than widespread adoption of specific instructional innovations, horizontal diffusion seemed more appropriately treated as an instance of high-scope, as opposed to low-scope, change.

The second means of achieving high-scope change was through a "top-down" strategy. This strategy was manifested in two ways. First, administrators were in a position to mandate that teachers make classroom-level adjustments to address project goals. However, shared commitments among original project participants to voluntary participation precluded this strategy from being used explicitly in all but one of the schools. Second, administrators could make changes in aspects of school operation within their zone of control, such as scheduling, which in turn affected large portions of the faculty. For instance, one principal induced

change by incorporating project goals into staff evaluation procedures, thereby making non-project teachers accountable for student outcomes addressed in the RBS project.

Horizontal diffusion. The absence of coordinating mechanisms, such as opportunities for teachers to interact with one another, coupled with high damping among subunits, presented obstacles to the diffusion of individual teaching changes throughout a school. In fact, the damping of information about the project was such that after two years of project activities, few faculty members not involved in the projects were familiar with them. Damping seemed particularly acute in the secondary schools. At Green Hills, an administrator speculated, "the average staff member probably doesn't know a damn thing about [the project] at this point," and a teacher at the same school commented that there was "still a great misconception of what it is we're doing and what it is we're trying to do." A non-project teacher at Neighbortown said, "I don't know anything about it....maybe it just hasn't passed around to me."

Damping seemed to be partially a consequence of limited opportunities to interact. A teacher at Neighbortown suggested that diffusion within a subject area department would occur only if someone from that department were a participant in the RBS project, otherwise the limited interaction across departments would prevent the necessary information from spreading. Several schools attempted to increase staff awareness of the projects either at faculty meetings or through in-service presentations, but several project participants openly acknowledged that these forums were not useful information-transfer devices. As described earlier, the informal

interaction of teachers contained systematic exclusions in who saw whom, and so these opportunities were not sufficient as a diffusion mechanism. Thus, information about why individual changes should be made and what the changes were was not diffused extensively beyond project participants. Without adequate information, non-project teachers were not likely to alter their behavior in accordance with project goals, and in fact, several of these teachers indicated that lack of information aroused their suspicion and concern about what the projects were intended to accomplish.

One instance of horizontal diffusion occurred in the tightly-coupled department at Neighbortown mentioned earlier. A member of the department, who was a project participant, had resisted making changes during the trial test of new teaching strategies, primarily because such changes were rarely made on an individual basis in the department. Eventually, the teacher requested that the RBS consultant work with the entire department. During this work, the department staff incorporated project goals into their existing priorities, established a schedule for addressing them, and instituted several new teaching strategies that the entire department would use. Thus, high-scope change within the subunit seemed to be facilitated by shared decision-making responsibility throughout the department, routine opportunities for coordination, and low damping among the teachers.

There were no attempts by schools to alter their structural characteristics permanently so that horizontal diffusion would be less problematic. However, the RBS planning meetings seemed to function as a temporary way to achieve tighter coupling. For example, at Neighbortown and Green Hills,

planning meetings were periodically used to introduce additional faculty members to the projects and to provide them time to plan new activities, thereby enabling a gradual but continuing process of diffusion to occur. At Middleville, each project teacher was provided regular opportunities to meet with a small group of non-project teachers. During these sessions, the non-project teachers were trained to make changes similar to the project teachers. Discussions of teaching strategies occurred at all schools, and teachers expressed pleasure with this because such opportunities did not arise outside meetings. Thus, the meetings themselves became a formal and informal source of increasing the interrelatedness among a number of subunits in the schools, and in doing so, heightened the prospects for diffusion. It remained to be seen whether similar meetings would become regularly scheduled after the termination of the RBS projects or if subsequent change efforts in the schools would encounter the same loose couplings which existed prior to the RBS projects.

Top-down change. High-scope change seemed to have a better chance of being implemented when the process was from the top down. Such a process typically involved an administrator's either mandating change for the faculty or making a change in administrative practices which implicated a considerable number of faculty members.

School staff expressed the opinion that high-scope change could occur if changes were mandated. Illustrative of this belief was a Neighbortown teacher who said, "Everyone involved feels it's worthwhile.... However, unless a dictate is given, it won't happen....Some staff simply

will not cooperate unless they are forced to." Generally, the individual whom staff acknowledged as having the right to mandate change was the building principal. In the secondary schools, several departmental chairpersons also acknowledged having this authority. However, whether or not a chairperson claimed authority varied between the two secondary schools. For example, at Green Hills the chairperson of one department said that all teachers in the department would implement several project-related activities because the chairperson said so; at Neighbortown a chairperson remarked that action could not be taken until an administrative mandate had been issued: "It's not my place to mandate it [change]....I need authority to back it up."

Participants in the projects were cognizant of the possibility that mandating change would engender hostility, especially if the changes were in the teachers' zone of control. In fact, project participants (including administrators) at four of the sites continually affirmed the need to keep participation voluntary and to include representatives from all zones affected by change decisions. At the same time, they acknowledged that with such a strategy there would remain a core of teachers unwilling to become involved. Thus, participants were aware of a potentially effective means of getting high-scope change implemented but were also unwilling to use it because of possible side effects.

An administrator at Green Hills was aware of these side effects and personally expressed disdain for authoritative leadership styles. Nevertheless, the administrator decided that the only way to get the entire

faculty to alter its behavior was to demand that they do so. The principal's directive to departmental chairpersons was "You will implement the (RBS) program." When recounting this episode, the administrator said as an aside, "That's a horrible way to operate." A test of the effectiveness of this strategy never occurred because the administrator was later reassigned to another position, and the individual who was appointed to replace the administrator suspended RBS involvement with the school indefinitely.

This event pointed to an inherent instability in mandated change. The authority to mandate typically resided with a single position. However, successors to that position were not obliged to carry out previous directives. Thus, turnover in administrative or department chairperson positions threatened existing mandates. Of course, pressure by interested parties could be exerted to retain a popular practice or program, but considerable effort was required and strained relations could follow. For example, at Green Hills, another administrator wanted the RBS project to continue and was in a position to bring considerable pressure upon the person who had suspended the project. The administrator, at the same time, expressed an unwillingness to endure the likely negative side effects that would ensue. As a result, little effort was made to intervene on the project's behalf. Thus, although the location of decision-making responsibility within the zone of control of an administrator or department chairperson could facilitate widespread implementation of change, it also made possible a relatively easy withdrawal of school commitment.

Administrators were more willing to exert their influence when change decisions were widely accepted as being within their zone of control. For example, at Patriot, the latter part of the second year of the RBS project was devoted to examining the district curriculum rather than classroom instruction. Curriculum decisions were typically within the administrative zone, and administrators reported they were much more comfortable demanding teacher adherence to changes in this area. One Patriot administrator said that it was hard "to pick up on" the classroom-level changes but that addressing curriculum problems "is something I can really get into."

Besides mandating others to make changes, administrators could alter operations within their zone which affected significant numbers of school staff. For example, at Smalltown the principal did not demand participation from all teachers but did incorporate project goals into staff evaluation procedures for all regular classroom teachers. Thus, the non-project teachers were accountable for achieving the same student outcomes to which project teachers were committed. Not surprisingly, the non-project teachers made changes very similar to those of the project teachers; and the principal's frequent classroom visits insured that these changes would not be implemented only when formal evaluation occurred.

Another area which administrators could alter was scheduling. As project planning progressed and as teachers implemented classroom-level changes, participants became aware that some of these changes could be more effective if school schedules were altered. For example, at Middleville and

Patriot, teachers attempted to increase the amount of time students spent performing academic tasks. However, they complained that their effort was hindered by a steady stream of classroom disruptions, such as students' being pulled out to attend special classes. Administrators decided to revamp the "pull-out" policies so that special instruction would occur only at certain times, thereby providing teachers with large blocks of time in which no disruptions would occur.

Nevertheless, there was loose coupling within schedule setting which reduced the ability of administrators to implement high-scope change in this way. One contributor to loose coupling was a zoning of control over schedules within the administrative zone. For example, in the first year of the project, the Patriot principal attempted to adjust the schedules that special education teachers in the school used to pull students out of regular teachers' classrooms. However, because the special education teachers reported to a district administrator rather than the principal, the principal had little control over these schedules. In the second year, the district superintendent made special teachers accountable to the principal and such schedule changes became easier to make. Thus, what enabled the changes to be made was moving the special schedules from district to building-level control within the administrative zone. At Middleville teachers expressed a desire for having additional planning time built into the schedule as well as making adjustments in pulling out students. The principal was able to alter the pull-out practices, but granting planning time was the school board's responsibility.[6]

At times, shared understandings among faculty constrained administrators' use of schedule changes as a way to achieve high-scope change. For example, Neighbortown project participants sought to institute a new course emphasizing content not covered anywhere else in the school. The participants felt that this course was important enough that all students should be required to take it. However, the faculty also was committed to preparing students for college; to require the new course would have limited college-bound students from taking extra courses in academic subjects and, perhaps, injured their college performance. A non-required course was implemented instead.

Summary and Implications

The literature on organizational coupling in schools posits a wide array of kinds of loose coupling to be found. This study discovered three kinds that were particularly salient for efforts to implement change: zoning of control, remote coordination of instruction, and damping among subunits. If decisions about changes were in a subunit's zone of control, coordination requirements were low, and damping was high, low-scope changes could be freely made. In fact, all but one of the project teachers reported making such changes. However, the schools were not uniformly loosely-coupled. It was possible for some subunits to display tighter coupling than the school as a whole; and in some areas of school operation, like scheduling or developing district curriculum, linkages among subunits were tighter. Implementing low-scope changes in these situations was found to be more problematic.

There were two strategies by which implementation of high-scope changes was attempted. One was horizontal diffusion of project goals throughout a faculty. Generally, this strategy was blocked by the lack of formal and informal opportunities for teachers to share information and experiences. However, in one department where diffusion was successful, the teachers routinely met to plan and discuss classroom-level activities. Thus, diffusion seemed possible only where tighter coupling was in place.

The second strategy was "top-down" change. Either administrators would mandate changes or would implement changes in administrative practices which affected large numbers of staff. Mandating change was better accepted when the changes fell within the administrative zone; staff felt that negative side effects resulted from efforts to mandate change in the classroom zone. Such a change strategy could be thwarted by turnover among administrators because successors to positions were not always obliged to carry out the initiatives of their predecessors. Changing administrative practices was occasionally effective in promoting change among faculty. For example, a principal's change in staff evaluation procedures stimulated non-project teachers to alter their behavior. However, zoning of control, lack of classroom-level feedback, and shared understandings of staff occasionally weakened the couplings between these practices and teachers, and thus, limited the success of the approach.

These findings suggest several implications for educational agencies assisting school improvement. First, depending on the scope of change

desired, it may be necessary to alter several existing organizational characteristics of a school. The most typical problem is likely to be increasing the coupling among subunits to promote high-scope change. It is possible that tighter coupling could be achieved as a part of the change process. For example, in the RBS case, the planning meetings increased coordination and reduced damping among teachers. If this issue is not directly addressed, reliance on change strategies like "natural" diffusion, or dissemination, will probably meet with limited success. Second, the zone in which primary decision-making responsibility for making changes is located may affect the kind of high-scope change strategy used. Administrators' mandates are likely to meet resistance if the changes sought are not within the boundaries of the administrative zone. In such instances, alternate strategies may be better. Nevertheless, it should be noted that many teachers expressed the opinion that mandates could be very effective and that rigid adherence to the ideal of voluntary participation may preclude consideration of a potentially useful change strategy. Third, the schools were not uniformly loosely-coupled. Some individual subunits were more tightly-coupled internally than others, and several subunits were tightly-coupled through schedules or curriculum policy. Thus, multiple change strategies may be necessary to implement a change within a single school.

This study was exploratory. As such, it is much more suggestive than conclusive. Nevertheless, it points to several directions future research may take. For example, what other kinds of couplings exist in

schools? Are there systematic differences in coupling between elementary and secondary schools? Are couplings that facilitate implementation of changes having a certain scope the same couplings that facilitate long-term incorporation of those changes? What change strategies are likely to be effective, given the existence of particular kinds of couplings? Answers to questions such as these should greatly increase understanding of the nature of schools and provide a needed boost to efforts to improve them.

Footnotes

1. In this presentation Dr. Berman recounted the major theme of his soon-to-be-published work tentatively entitled, Some Things Work Some Times in Some Places.

2. The term "subunit" is used to denote both single classrooms and larger structurally-relevant units such as departments.

3. All school names are pseudonyms.

4. The survey included four kindergarten teachers who were accountable to Smalltown's principal but were not located in Smalltown's building. Subsequent interviews suggested that including these four additional responses slightly overestimated the amount of teacher interaction at Smalltown.

5. However, the mayor of the town was an occasional participant in RBS planning meetings.

6. The school board eventually agreed to increase planning time.

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